

CLAIMS:

What is claimed is:

1. A circular die for extrusion, said die comprising:
 - an outer die having a generally conically shaped opening and in fluid communication with an extruder;
 - an inner cone nested in non-contact with said outer conically shaped die opening; and
 - a drive shaft connected to said inner cone and located outside of said outer die, wherein said inner cone rotates axially with said drive shaft.
2. The circular die of Claim 1 further comprising a motor connected to said drive shaft.
3. The circular die of Claim 1 wherein the inner cone and outer circular die can rotate axially independent of each other.
4. The circular die of Claim 1 wherein the inner cone is adjustable fore and aft within the outer circular die, thereby adjusting the thickness of an extrudate extruded through said circular die.
5. The circular die of Claim 1 wherein said inner cone is heated.
6. The circular die of Claim 1 wherein said inner cone is cooled.

7. The circular die of Claim 1 wherein the outer die is heated.
8. The circular die of Claim 1 wherein the outer die is cooled.
9. The circular die of Claim 1 further comprising a device for monitoring the torque applied on the inner cone.
10. The circular die of Claim 1 further comprising a device for monitoring the force applied by the extrudate on the inner cone.

11. A method for producing an oriented extrudate comprising the steps of:
 - a) forcing a dough into a die having an opening comprising a generally conical shape;
 - b) rotating a cone axially within the conically shaped opening of the die.
12. The method of Claim 11 further comprising the steps of:
 - c) rotating the die axially.
13. The method of Claim 11 further comprising the steps of:
 - c) monitoring the torque applied on the cone during rotation.
14. The method of Claim 11 further comprising the steps of:
 - c) monitoring the force exerted by the dough against the cone.

15. An extruder die in communication with an extruder, said extruder die comprising:
- an outer component defining a circular exit port through which extrudate is directed;
 - a cone nested in, but not in contact with, said circular exit port; and
 - a drive shaft attached to said cone, wherein said drive shaft is located outside said outer component.
16. The extruder die of Claim 15 wherein the drive shaft is attached to a motor for rotating the cone axially within the exit port.
17. The extruder die of Claim 15 wherein the relative fore and aft position of the cone within the outer component is adjustable.
18. The extruder die of Claim 15 wherein the outer component is capable of axial rotation.